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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Vandekerckhove et al

Serial No.: 10/527,662

Filed: March 11, 2005

For: A METHOD FOR THE
IDENTIFICATION OF DRUG TARGETS

Confirmation No.: 7309

Examiner: C. Foster

Group Art Unit: 1641

Attorney Docket No.: 2676-9863US

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RESPONSE TO SPECIES ELECTION REQUIREMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

This communication is in response to the Office communication of September 16, 2010.

Claims 2-5, 13, 14, and 17-36 are pending in the application and subject to a Species Election Requirement. Office Communication, at page 2. Applicants provisionally elect the molecule, benzoyl-penicilline, with traverse. As understood, it is believed that claims 2-5, 13, 14, 17, 18, and 20-29 read on the provisionally elected molecule, benzoyl-penicilline. The Office has indicated that claims 2-5, 14, 17, and 22-27 are generic. Office Communication, at page 3. In the event that the provisionally elected molecule, benzoyl-penicilline, is found to be free of the prior art and allowable, the applicants respectfully request consideration of the full scope of the claims.

The Office asserts that the “application contains claims directed to more than one species... [which] lack unity of invention because they are not so linked as to form a single inventive concept under PCT Rule 13.1.” Office Communication, at page 2. The Office further asserts that the claims “encompass distinct molecules that differ in structure and function, and which would therefore also differ in regards to what interaction partners the molecules would be capable of interacting with.” Id. The reasons for the applicants’ traverse are as follows:

The applicants respectfully submit that the pending claims do indeed have unity of invention, as defined by 37 C.F.R. § 1.475. The present claims are drawn to general methods for screening for interaction partners of different molecules, such as targets of drugs. To be restricted to a single molecule for screening is completely inconsistent with the utility of the invention; one reason the claimed invention is so valuable and useful is that it can be used in different embodiments to isolate unknown interaction partners of virtually any molecule or drug.

37 C.F.R. § 1.475(a) provides: “Where a group of inventions is claimed in an application, the requirement of unity of invention shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression ‘special technical features’ shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.”

One special technical feature of the invention is the ability to isolate unknown interaction partners. Since the use of the invention has been exemplified with compounds that have known interaction partners in order to prove the specificity of the methods, the applicants would seem to be forced to elect a compound (such as benzoyl-penicilline) for which the interaction partner is already known, and therefore would be unlikely to be used in practice. Those of skill in the art have little use for methods of identifying the interaction partners of molecules that have already been identified. The numerous peptides, small molecules, etc., that may be used in the claimed methods for the isolation of an interaction partner are not different inventions; they are merely particular applications of general methods that do not depend upon the identity of the molecule for their operation.

The Office has also reproduced an unidentified passage similar to MPEP § 1850(III)(B),

pertaining to Markush practice, as support for the assertion that “[t]he chemical compounds of molecules are not regarded as being of similar nature because: (1) the alternatives do not all share a common structure and (2) the alternatives do not all belong to a recognized class of chemical compounds.” Office Communication, at page 5. None of the claims recite a Markush group of alternative “molecules,” as that term is used in the claims, and to which the Office has directed its species election requirement. Claim 28 recites a Markush group of alternative interaction partners of “molecules.”¹ Thus, the guidelines for evaluating unity of invention with regard to Markush claims, as set forth in MPEP § 1850(III)(B), do not appear to be applicable to the present species election requirement.

Nevertheless, if the analysis of unity of invention for Markush claims were extended to the molecules, among which election is now required, the applicants respectfully submit that the alternatives encompassed by the claims would be found to have unity of invention. Markush groupings for alternatives of chemical compounds are of a similar nature when the alternatives lack a common structural element but belong to a recognized class of chemical compounds in the art to which the invention pertains. MPEP § 1850(III)(B). “[T]he words ‘recognized class of chemical compounds’ mean that there is an expectation from the knowledge in the art that members of the class will behave in the same way in the context of the claimed invention. In other words, each member could be substituted one for the other, with the expectation that the same intended result would be achieved.” Id. (Emphasis added).

In the present case, the invention provides general methods that can be used to screen for targets of different drugs (*i.e.*, the interaction partner(s) of the drug). Within the context of this invention, any and all molecules would be expected by one of skill in the art to behave the same way; every molecule would form a molecule-interaction partner complexes with its target. It is true that different drugs bind to different active sites in different target enzymes, but this is of no consequence to the use of the claimed methods. For the purpose of the claims, the important principle of operation is that the molecule does stably interact with an interaction partner. The nature of the interaction is unimportant.

¹ To avoid confusion, it is important to keep in mind that the claims refer to two separate elements: (1) “molecules;” and (2) “interaction partners” of those molecules.

Applicants respectfully request the species election requirement be withdrawn. Applicants further respectfully request examination of the claims on the merits. If questions remain after consideration of the foregoing, the Office is kindly requested to contact the applicants' attorney at the address or telephone number given herein.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Alexander T. Stein', written in a cursive style.

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